



Date: May 6, 2014

To: Thomas J. Bonfield, City Manager
Through: Keith Chadwell, Deputy City Manager
From: Mark D. Ahrendsen, Director of Transportation
Subject: Agenda Item – Durham Traffic Separation Study (TSS)

Executive Summary

The draft “Traffic Separation Study for the City of Durham, North Carolina” (TSS) was released for formal public review and comment in September 2013. The City Council held the study report and recommendations public hearing on October 21, 2013. This was followed by a public comment period which concluded on November 19, 2013. The comments are recorded, with responses, and included in Appendix I of the attached final study report. As indicated in the comment responses, the report and recommendations were revised.

The purpose of the study was to provide a comprehensive evaluation of traffic patterns and road usage at 18 public at-grade rail crossings within the North Carolina Railroad (NCRR) corridor, extending from Neal Road to E. Cornwallis Road. The study assessed existing conditions and determined needed improvements to enhance rail crossing safety. The project study included data collection, crossing analysis, safety and mobility issues, community impact, alternatives analysis, and public involvement. Additional input was provided throughout the study process by a group of stakeholders. The study project funding partners were the N. C. Department of Transportation Rail Division, the City of Durham, Triangle Transit and Norfolk Southern Railway Company.

The study report identifies and recommends a series of near-term (2-5 years), mid-term (5-7 years), and long-term (more than 7 years) crossing improvements. The long-term improvements are more complex and will require significant funding commitments for further detailed study and implementation. The TSS provides a sound foundation to seek funding from federal, state, regional and local funding sources. It also provides planning guidance for the development and implementation of related future transportation improvement projects and land development.

Recommendation

The administration recommends that the City Council adopt a resolution concerning the recommendations in the “Traffic Separation Study for the City of Durham, North Carolina.” The recommended resolution is attached.

Background

The N. C. Department of Transportation (NCDOT) has developed Traffic Separation Studies throughout the state in an effort to improve traffic operations and safety of at-grade railroad crossings. These studies are one of the comprehensive programs to improve rail-crossing safety administered by the NCDOT, Federal Highway Administration (FHWA), and the Federal Rail Administration (FRA). Each study considers the unique needs and circumstances of each rail crossing and depends upon the active engagement of local governments, rail operators, and the public. The study process is essential for identifying, recommending and prioritizing rail crossing improvements and a step in qualifying projects for safety improvement funds, including NCDOT's Crossing Hazard Elimination Program. With renewed focus and planning for High Speed Rail and Regional Rail Service in the NCRR corridor, including on-going rail crossing safety concerns, NCDOT proposed a comprehensive TSS for the NCRR corridor in Durham as a joint effort with the City of Durham, Norfolk Southern Railway Company, and Triangle Transit. As the project manager, NCDOT selected and engaged Kimley-Horn and Associates in 2011 to prepare the engineering evaluation and study.

The TSS includes a comprehensive evaluation of existing safety conditions at 18 public highway/rail grade crossings along the Norfolk Southern rail line in Durham from Neal Road (SR 1314) to E. Cornwallis Road (SR 1121). Due to rapid development and increasing pedestrian activity in downtown, the study scope also included a more detailed evaluation and recommendation of pedestrian safety and access needs along the corridor in downtown between Chapel Hill Street and Roxboro Street. The recommendations are provided in Appendix H of the report.

The study process included an extensive public involvement process with committee meetings, stakeholder meetings, public workshops, environmental justice/limited English proficiency outreach, small group meetings, mailings, and press releases. Individuals, PACs, neighborhood associations and others registered on the City/County Planning Department's Organization Notification Directory and located within one mile of the corridor were included in project notices. A series of public workshops were held in November and December 2011 to obtain community input early in the study process. A second series of public workshops was held in March 2013 for input and comment on proposed crossing alternative treatments, closings, and grade separations.

The study process also included stakeholders and a series of stakeholder meetings. The stakeholders included the study funding partners (NCDOT, the City of Durham, Triangle Transit, and Norfolk Southern Railway Company) along with the Durham Fire and Police Departments, Durham City/County Planning, Durham County EMS, Durham Public Schools, Durham Chamber of Commerce, DCHC MPO, NCRR, Downtown Durham, Inc., Durham Bulls, DPAC, RTP, American Tobacco Campus, Duke University, NCCU, TJCOG, and the Interneighborhood Council. Stakeholder meetings were held in November 2011, April 2012, January 2013, and May 2013.

Issues and Analysis

The study report identifies and recommends a series of near-term (2-5 years), mid-term (5-7 years), and long-term (more than 7 years) crossing improvements. The City Department of Transportation, NCDOT and General Services have completed several of the low-cost recommended near-term improvements and are planning the implementation of the others. Additional near-term alternatives may be paid for through City and/or NCDOT funding

sources. Improvements by others have been requested of the identified agency. The near- and mid-term alternatives consist of pavement markings, warning signs, signal upgrades, lighting, bridge maintenance, asphalt/sidewalk improvements, access management, and traffic median barriers. A listing of these items and their status is included in the attached table (Table 1).

Long-term alternatives include grade separation, grade closing, and pedestrian underpass projects. Due to the complexity and costs of these long-term improvements, a ranking process was used to assist project stakeholders in identifying long-term alternatives which best balance safety improvements, cost benefit, environmental impact and general need. Long-term alternatives will require separate detailed project-level studies with further evaluation of alternatives, environmental impacts and public engagement. This next level of study will be necessary to provide detail design analysis which concerned many of those who commented on the study recommendations. Projects will be selected for further study and funding through the development of the TIP and CIP. The projects must also compete with other transportation project priorities and available funding sources. The TSS report recommends the long-term at-grade rail crossing improvements as ranked in Table 1 below. However, projects may be mutually selected at any time for further study regardless of ranking position.

Table 2. Long-Term Alternative Ranking

Crossing	Section	Alternative	Rank
Blackwell, Mangum, and Roxboro Streets	Downtown	Grade Separation	1
Ellis Road West	East	Grade Separation	2
S. Dillard Street	Downtown	Close Crossing (Construct Pedestrian Underpass)	3
Ramseur Street	Downtown	Close Crossing (Construct Pedestrian Underpass)	4
Cornwallis Road	East	Grade Separation	5
Briggs Avenue	Downtown	Grade Separation	6
Ellis Road East	East	Grade Separation	7
Plum Street	Downtown	Close Crossing (Construct Pedestrian Underpass)	8
N. LaSalle Street	West	Grade Separation	9
Fayetteville Street	Downtown	Grade Separation	10
Glover and Wrenn Roads	East	Grade Separation at Glover Road and Close Wrenn Road	11
Neal Road	West	Grade Separation	12

Eleven speakers provided comments at the public hearing. Written comments were provided by twelve persons, including two persons who spoke at the hearing. The comments of each person are summarized in the TSS report Appendix I along with responses. The comments fell generally into three categories: 1) requests for additional analysis or changes to alternatives; 2) comments supporting the proposed projects; and 3) comments opposed to the recommended projects.

Several comments pertained to insufficient detail in the proposed alternatives, inadequate design concepts and an inadequate impact assessment for the proposed long-term improvements. As noted in the comment responses, this level of study was beyond the intended purpose and scope of the TSS. The purpose of the TSS is to demonstrate which alternatives are feasible, practicable and worthy of additional project study. The study report graphics are conceptual-level designs and depict only one potential design solution without a full examination of impacts. Projects selected for further consideration will require more detailed study of impacts and alternatives, including a “No-build” alternative. To better address these concerns and more clearly state the purpose and intent of the TSS, the following text has been added as the introductory paragraph to the study report Executive Summary:

A Traffic Separation Study (TSS) is part of a comprehensive evaluation of vehicular, train, and pedestrian patterns and interactions along a defined local or regional rail corridor. The purpose of the TSS is to determine the need for improvements and/or elimination of public at-grade crossings to improve safety and mobility for motorists, pedestrians, rail passengers, and train crews. This TSS has evaluated a range of potential safety improvement options at each at-grade crossing in the Norfolk Southern/North Carolina Railroad (NS/NCRR) rail line in Durham County from Neal Road to Cornwallis Road. Conceptual level engineering evaluations were performed to conclude if grade separations would be feasible based on local design criteria, preliminary impacts, probable construction costs, and stakeholder and public input. The “recommended alternatives” in this report are those that scored highest through use of specific evaluation criteria and were supported in concept by the majority of project Stakeholders and Funding Partners. While the exhibits in this study depict concepts for improvement, it is not the intent of this study to attempt to make specific recommendations regarding a specific design solution (i.e. configuration of grade separation) at any location. Rather, this study examines whether or not possible engineering solutions for improvements, such as grade separations, closings, and/or consolidations are achievable and practical. All design criteria for recommended improvements such as bridge locations, construction materials, streetscape and landscape materials, etc. is outside the scope and intent of this particular study. These particular items and others are considered “next steps” and would be evaluated in more detail with subsequent studies.

There were also concerns about the proposed Dillard Street crossing closing and potential impacts to Durham County governmental complexes and services as well as consideration of impacts to EMS responders. Several EMS and County planning staff attended and participated in stakeholder meetings through the study process, including representatives from Durham County Emergency Management, Durham Police, Durham Fire and Durham City/County Planning. Additionally, the study report recommendations for Dillard Street have also been revised to reflect that any recommendations for improvements, including grade closure, grade separation (pedestrian or otherwise) should be determined during subsequent study phases when more detailed survey data and design are prepared for the adjacent downtown crossings. Further study will require evaluation of impacts and public input, including input from Durham County government and City and County emergency responders.

There were also comments opposed to grade crossing closings, including any in East Durham and Dillard Street. Comments were made favoring the recommended priority for the grade crossing separations in downtown at Blackwell Street and Mangum Street along with comments of appreciation for the study engagement process which resulted in the elimination of earlier considered alternatives to grade separate crossings at Swift Avenue and 15th Street. The study process concluded that these were not feasible recommendations.

Alternatives

The TSS evaluated multiple alternatives for the 18 at-grade crossings. Based on input from the public and stakeholders, several alternatives were eliminated during the course of the study and as further identified in Appendix C of the TSS report. The eliminated alternatives included: a N. LaSalle Street bridge over rail option; Anderson Street bridge over rail and bridge over road options; Swift Avenue bridge over road and bridge over rail options; Duke Street bridge over rail and bridge over road options; a Plum Street bridge over road option; and two Ellis Road (West) bridge over rail options. The recommended long-term options are listed in Table 2 above and described in detail in the TSS report.

The administration recommends that the City Council adopt a resolution concerning the TSS recommendations with the provision that the implementation of the long-term study recommendations will only be advanced in collaboration with and approval by the City of Durham following subsequent project-specific studies and public engagement. Alternatively, the City Council may chose not to approve an adopting resolution. Without an adopted long-term at-grade crossing plan, securing federal and state funds for safety and mobility improvements in the NCRR corridor will be more difficult as the federal and state funding processes require the selection of projects from adopted plans.

Financial Impact

Implementation of the study recommendations is subject to future funding allocations of federal, state, regional and local funds programmed through the TIP and CIP. The allocation of funds will be determined through the respective funding processes.

SDBE Summary

Due to the nature of this item, there is no SDBE review or summary.

Attachments

Traffic Separation Study Report

Table 1 – Status of Near-Term and Mid-Term Improvements

Adopting Resolution